

Gobble! Gobble!

ntists Learn Wild Turkey Talk & More



Photo Story Number 22

Wise turkey hunters seem to have a sixth sense when it comes to finding their prey. But forest managers need this intuition, plus concrete information, if they are to manage lands to support wild turkey populations abundant enough to satisfy all the different demands of America's hikers, bird watchers, and naturalists, as well as hunters, for this game bird.

USDA Forest Service wildlife biologists are conducting wildlife habitat research at the Forestry Sciences Laboratory in Morgantown, W. Va., in an attempt to meet the forest managers' specific needs for information on how to manage lands most efficiently for wildlife and game birds without undermining the forest's recreation, timber, and water values.

In one phase of this habitat research program, Forest Service Wildlife Biologist Bill Healy has set out to determine what forest conditions will ideally support an abundance of wild turkeys. His findings will be developed into practical guidelines to help forest managers decide, for instance, whether the forest clearings they now prepare at considerable expense specially for wild turkey broods are really necessary, or whether less costly mowed areas could serve as well.

Healy chose to tackle these habitat problems by watching the daily routines of real game birds under actual woodland conditions. As Healy reasoned it -- and most turkey hunters would agree -- you can't just stake out a spot of wilderness and wait for wild turkeys to appear so you can observe them. It's better to have wild turkeys on hand first. So in May to prepare for his habitat study, Healy obtained 3 batches of wild turkey eggs from the Pennsylvania Game Commission's Wild Turkey Farm.

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PLAYING TURKEY MOTHER

Because he wanted his research turkeys to behave normally around him, that is, being tame toward him, yet retaining their "wild" natures, Healy made an effort to master many of the wild turkey's special sounds and gestures prior to the outset of the study. When the new birds hatched in their incubator, Healy was well prepared to assume the roles of "Mother" and mentor.

The painstaking mothering role demanded that Healy virtually live with each of 3 broods, in turn, for the first 4 to 5 days after each brood's hatching. In this way he could offer each of the young the movement, sound, and contact that would normally be provided by a natural mother. Healy actually simulated motherly contact by touching and warming the young birds in the pockets of a sweatshirt he wore. He repeated the process with all 66 birds that hatched.

As a result of this early, personal care, the birds were "imprinted" to the scientist, that is, they followed his movements, responded to his maternal-like calls, and readily accepted him as their "Mother." This successful imprinting had made the wild birds needed for the habitat study tame and comfortable among people, and thus ready for observation. On the contrary, Healy found that where no effort at imprinting was made within 4 days of birth, wild turkeys could neither be handled nor worked with.

Although the scientifically-accepted process of imprinting has been widely used with a number of animal species, this use by Forest Service scientist Healy marks the first time that imprinted turkeys have been used to evaluate turkey habitat.

THE TURKEYS STROLL

After one week of imprinting, Healy's wild turkeys were so strongly attracted to their "Mother" and the flock, that they could be released outdoors without fear of their running off -- this despite the fact that their wings had not been clipped, so that they were physically free to leave. By autumn, however, such mother and flock attraction should end naturally, possibly causing individual birds to opt for a new locale.

From the end of that first week, the young birds were taken outdoors daily for sauntering and observation sessions. Outings typically lasted for several hours at a time. After a month, the birds were returned to an outdoor pen at the end of each outing, rather than to the previously used indoor laboratory quarters.

While strolling through the woods, Healy and his assistant, Ellen Goetz, whom the flock regarded as a second "Mother," had only to give a motherly call in order to keep their brood close together. Young birds heeded "Mama's" calls exclusively; but after 4 weeks, any bird could call the flock to attention or send it into hiding as danger threatened.

While strolling, the birds would sometimes form one feeding line, spreading out in a loose arc and moving ahead of "Mama." If danger threatened, as when a hawk loomed overhead, the flock would gather around "Mama" to await further instructions. A sharp trill would then scatter the birds into dense cover, where they would stand motionless until a soft "Kelk, kelk, kelk" signaled all clear.

Healy used these daily excursions through various woodland conditions for monitoring different aspects of flock behavior, either as they occurred or later by means of TV videotapes. He also gathered information on foods eaten and eating rates for a sample of birds. These data will be compared for each of several forest vegetation conditions, ranging from areas with tall trees to patches with grass cover only.

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Forest Service Wildlife Biologist Bill Healy counts a brood of wild turkeys, set to leave their pen for a stroll in the woods.



The wild turkey -- at 1 week and at 2 months.

The brood stays in line and follows the simulated mother calls of the scientists, whom the birds have learned to regard as "Mother."



By "imprinting" the birds to himself during their earliest days, Healy was able to tame the birds, so that he could study their natural habits.



Healy samples the eating rate of a 2-month old turkey, camouflaged by the vegetative ground cover. The tape recorder keeps Healy's behavioral observations during sessions in the woods.

Gobble! Gobble! Gobble!



Young birds subsist primarily on a protein diet of insects. Here ants are being taken from an old decayed log.

AND FROM OBSERVATION

From the imprinting process and subsequent observation of successfully imprinted turkeys, Forest Service scientist Healy -- in addition to gaining insights into habitat requirements -- was able to assemble information on different behavioral characteristics. This information, which includes the following, will be compiled as an ethnogram on the wild turkey as a species:

...Wild turkeys display fear and avoidance reactions within 12 hours of birth.

...The first 24 hours are the most important to a young turkey's progress with imprinting and learning. During this period wild turkeys are most sensitive, most keenly aware of moving objects they might follow, and most alert to socialization.

...Aggressive-submissive behavior and the sexual strut -- often portrayed at Thanksgiving by the turkey with its feathers erect and fanned out -- begin before 2 weeks of age.

...During the first 8 weeks, wild turkeys select a high protein diet, consisting solely of insects. As small poults, they can easily pass through even the most densely tangled vegetation in open fields to locate their insect supplies. At 2 months, having gained in size, the birds will extend their diet to include vegetation and begin stripping off open, spikled heads of grass seed and nibbling at other, small dispersed seeds.

...According to the bird-watching Healy, the behavior of the birds provides a sensitive measure of the environment. Secure and comfortable birds give a contentment call, which can be used as an "Index of Environmental Goodness." Contentment calls reach a peak when temperatures are mild, hiding cover is handy, and food abundant. Contentment calls taper off as birds become cold, hot, hungry, or nervous. Also, cold chicks shiver and try to brood under "Mama," while overheated chicks pant and droop their wings. And birds that become lost, injured, or trapped give high-pitched distress calls. Among wild turkeys, the traditional gobbling sound begins only after the second month.

Wildlife Biologist Healy plans to duplicate this study for a second year, using other broods of wild turkeys to verify his findings.